

Appl. No. 09/872,848
Amdt. dated 4/19/06
Reply to Office Action of 1/26/06

PATENT
Docket: 000303

IN THE CLAIMS

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application:

1. Previously Canceled

2. Previously Canceled

3. (Currently amended) A method of searching for a synchronization sequence transmitted in bursts, comprising:

shifting a first string of samples of a first received signal burst into a shift register according to a clock signal;

subsequent to the shifting the first string, disabling the clock signal;

calculating a first correlation result based on at least a first substring of the first string of samples;

calculating a second correlation result based on at least a second substring of the first string of samples;

subsequent to the disabling the clock signal, enabling the clock signal;

subsequent to the enabling the clock signal, shifting a second string of samples of the a second received signal burst into the shift register according to the clock signal;

calculating a third correlation result based on at least a first substring of the second string of samples;

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calculating a fourth correlation result based on at least a second substring of the second string of samples;

calculating a first coherent sum based on the first correlation result and the second correlation result; and

calculating a second coherent sum based on the third correlation result and the fourth correlation result,

wherein the noncoherent sum is based on the first coherent sum and the second coherent sum.

4. (Previously Amended) The method of claim 3, wherein the first correlation result is based at least in part on a relation between a corresponding portion of a code vector and at least the first substring of the first string of samples, and

wherein the second correlation result is based at least in part on a relation between a corresponding portion of the code vector and at least the second substring of the first string of samples, and

wherein the portion of the code vector corresponding to the first correlation result is adjacent to the portion of the code vector corresponding to the second correlation result.

5. (Original) The method of claim 3, wherein each of the first, second, third, and fourth correlation results is based on testing a first search hypothesis.

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7. Previously Canceled

8. (Currently amended) A searcher comprising:

a searcher clock configured and arranged to enable and disable a clock signal;

a shift register configured and arranged to receive strings of samples of a received signal according to the clock signal and to output different sample vectors at successive transitions of the clock signal; and

a noncoherent accumulator configured and arranged to output a noncoherent sum; ~~and~~

a coherent accumulator configured and arranged to produce a first coherent sum based on a plurality of sample vectors outputted before a disabling of the clock signal and a second coherent sum based on a plurality of sample vectors outputted after the disabling of the clock signal, the noncoherent accumulator being configured and arranged to output the noncoherent sum based on the first coherent sum and the second coherent sum; ~~and~~

an integrator configured and arranged to produce a first correlation result corresponding to a first search hypothesis and based on the first sample vector, a second correlation result corresponding to a second search hypothesis and based on the second sample vector, a third correlation result based on a third sample vector outputted before a disabling of the clock signal, and a fourth correlation result based on a fourth sample vector outputted after the disabling of the clock signal, the third correlation result corresponding to the first search hypothesis and the fourth correlation result corresponding to the second search hypothesis, and the noncoherent accumulator being configured and arranged to output a noncoherent sum based on the first, second, third, and fourth correlation results.

Claim 9 (Cancelled)

10. (Currently Amended) The searcher of claim 9 ~~8~~, the searcher further comprising a coherent accumulator configured and arranged to produce a first coherent sum based on the first

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and third correlation results and a second coherent sum based on the second and fourth correlation results, the noncoherent accumulator being configured and arranged to output a noncoherent sum based on the first coherent sum and the second coherent sum.

11. (Original) A method of searching for a synchronization sequence, comprising:

storing a first string of samples to a sample storage, the first string including a first region, a second region, and an intermediate region between the first and second regions;

loading samples of the first region into a shift register;

testing a search hypothesis on a first sample vector outputted by the shift register and including samples of the first region;

loading samples of the second region into the shift register;

testing the search hypothesis on a second sample vector outputted by the shift register and including samples of the second region; and

storing a second string of samples to the sample storage, including overwriting at least a portion of the intermediate region, no samples of the portion of the intermediate region being shifted into the shift register between a time of storing the first string and a time of storing the second string.

12. (Original) The method of claim 11, further comprising:

receiving a radio-frequency signal over a first period; and

receiving the radio-frequency signal over a second period subsequent to the first period, the first string of samples being based on the signal received over the first period and the second string of samples being based on the signal received over the second period.

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13. (Original) The method of claim 11, further comprising:

accumulating a noncoherent sum based on a result of testing the search hypothesis on the first sample vector and a result of testing the search hypothesis on the second sample vector.

14. (Original) The method of claim 11, further comprising:

testing the search hypothesis on a third sample vector outputted by the shift register and including samples of the first region; and

accumulating a coherent sum based on a result of testing the search hypothesis on the first sample vector and a result of testing the search hypothesis on the third sample vector.

15. (Original) The method of claim 11, further comprising:

testing the search hypothesis on a third sample vector outputted by the shift register and including samples of the first region;

testing the search hypothesis on a fourth sample vector outputted by the shift register and including samples of the second region;

accumulating a first coherent sum based on a result of testing the search hypothesis on the first sample vector and a result of testing the search hypothesis on the third sample vector;

accumulating a second coherent sum based on a result of testing the search hypothesis on the second sample vector and a result of testing the search hypothesis on the fourth sample vector; and

accumulating a noncoherent sum based on the first coherent sum and the second coherent sum.